BioMap and Living Waters

Guiding Land Conservation for Biodiversity in Massachusetts

Core Habitats of Richmond

This report and associated map provide information about important sites for biodiversity conservation in your area.

This information is intended for conservation planning, and is not intended for use in state regulations.

Produced by:

Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries and Wildlife
Executive Office of Environmental Affairs
Commonwealth of Massachusetts

Produced in 2004

BioMap and Living Waters:
Guiding Land Conservation for Biodiversity in Massachusetts

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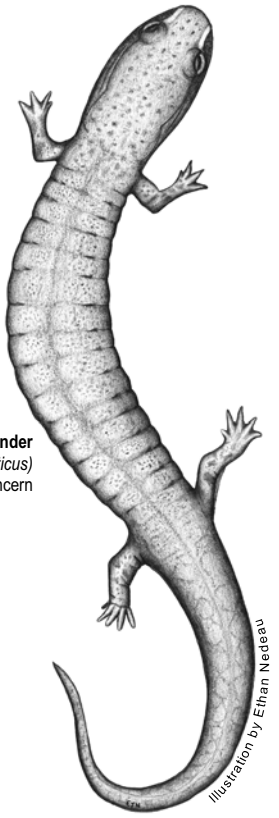
* Depending on the location of Core Habitats, your city or town may not have all of these sections.



Spring Salamander
(Gyrinophilus porphyriticus)
Species of Special Concern

Funding for this project was made available by the Executive Office of Environmental Affairs, contributions to the Natural Heritage & Endangered Species Fund, and through the State Wildlife Grants Program of the US Fish & Wildlife Service.

Natural Heritage & Endangered Species Program

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For more information on rare species and natural communities, please see our fact sheets online at ***www.nhesp.org***

BioMap and Living Waters:
Guiding Land Conservation for Biodiversity in Massachusetts

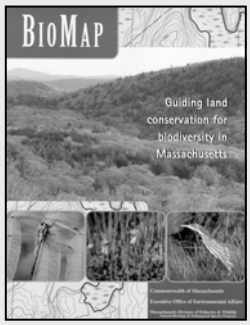
Introduction

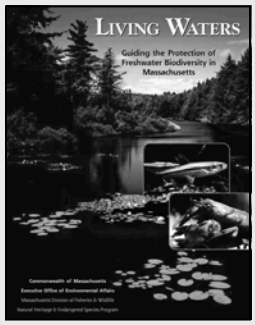
In this report, the Natural Heritage & Endangered Species Program provides you with site-specific biodiversity information for your area. Protecting our biodiversity today will help ensure the full variety of species and natural communities that comprise our native flora and fauna will persist for generatons to come.

The information in this report is the result of two statewide biodiversity conservation planning projects, ***BioMap*** and ***Living Waters***. The goal of the BioMap project, completed in 2001, was to identify and delineate the most important areas for the long-term viability of terrestrial, wetland, and estuarine elements of biodiversity in Massachusetts. The goal of the Living Waters project, completed in 2003, was to identify and delineate the rivers, streams, lakes, and ponds that are important for freshwater biodiversity in the Commonwealth. These two conservation plans are based on documented observations of rare species, natural communities, and exemplary habitats.

What is a Core Habitat?

Both BioMap and Living Waters delineate ***Core Habitats*** that identify the most critical sites for biodiversity conservation across the state. Core Habitats represent habitat for the state's most viable rare plant and animal populations and include exemplary natural communities and aquatic habitats. Core Habitats represent a wide diversity of rare species and natural communities (see Table 1), and these areas are also thought to contain virtually all of the other described species in Massachusetts. Statewide, BioMap Core Habitats encompass 1,380,000 acres of uplands and wetlands, and Living Waters identifies 429 Core Habitats in rivers, streams, lakes, and ponds.





Get your copy of the ***BioMap*** and ***Living Waters*** reports! Contact Natural Heritage at 508-792-7270, Ext. 200 or email natural.heritage@state.ma.us. Posters and detailed technical reports are also available.

Core Habitats and Land Conservation

One of the most effective ways to protect biodiversity for future generations is to protect Core Habitats from adverse human impacts through land conservation. For Living Waters Core Habitats, protection efforts should focus on the ***riparian areas***, the areas of land adjacent to water bodies. A naturally vegetated buffer that extends 330 feet (100 meters) from the water's edge helps to maintain cooler water temperature and to maintain the nutrients, energy, and natural flow of water needed by freshwater species.

In Support of Core Habitats

To further ensure the protection of Core Habitats and Massachusetts' biodiversity in the long-term, the BioMap and Living Waters projects identify two additional areas that help support Core Habitats.

In BioMap, areas shown as ***Supporting Natural Landscape*** provide buffers around the Core Habitats, connectivity between Core Habitats, sufficient space for ecosystems to function, and contiguous undeveloped habitat for common species. Supporting Natural Landscape was

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generated using a Geographic Information Systems (GIS) model, and its exact boundaries are less important than the general areas that it identifies. Supporting Natural Landscape represents potential land protection priorities once Core Habitat protection has been addressed.

In Living Waters, ***Critical Supporting Watersheds*** highlight the immediate portion of the watershed that sustains, or possibly degrades, each freshwater Core Habitat. These areas were also identified using a GIS model. Critical Supporting Watersheds represent developed and undeveloped lands, and can be quite large. Critical Supporting Watersheds can be helpful in land-use planning, and while they are not shown on these maps, they can be viewed in the Living Waters report or downloaded from www.mass.gov/mgis.

Understanding Core Habitat Species, Community, and Habitat Lists

What's in the List?

Included in this report is a list of the species, natural communities, and/or aquatic habitats for each Core Habitat in your city or town. The lists are organized by Core Habitat number.

For the larger Core Habitats that span more than one town, the species and community lists refer to the entire Core Habitat, not just the portion that falls within your city or town. For a list of all the state-listed rare species within your city or town's boundary, whether or not they are in Core Habitat, please see the town rare species lists available at www.nhesp.org.

The list of species and communities within a Core Habitat contains only the species and natural communities that were explicitly included in a given BioMap or Living Waters Core Habitat. Other rare species or examples of other natural communities may fall within the Core Habitat, but for various reasons are not included in the list. For instance, there are a few rare species that are omitted from the list or summary because of their particular sensitivity to the threat of collection. Likewise, the content of many very small Core Habitats are not described in this report or list, often because they contain a single location of a rare plant

Table 1. The number of rare species and types of natural communities explicitly included in the BioMap and Living Waters conservation plans, relative to the total number of native species statewide.

BioMap

	Species and Verified Natural Community Types	
Biodiversity Group	**Included in BioMap**	**Total Statewide**
Vascular Plants	246	1,538
Birds	21	221 breeding species
Reptiles	11	25
Amphibians	6	21
Mammals	4	85
Moths and Butterflies	52	An estimated 2,500 to 3,000
Damselflies and Dragonflies	25	An estimated 165
Beetles	10	An estimated 2,500 to 4,000
Natural Communities	92	> 105 community types

Living Waters

	Species	
Biodiversity Group	**Included in Living Waters**	**Total Statewide**
Aquatic Vascular Plants	23	114
Fishes	11	57
Mussels	7	12
Aquatic Invertebrates	23	An estimated > 2500

species. Some Core Habitats were created for suites of common species, such as forest birds, which are particularly threatened by habitat fragmentation. In these cases, the individual common species are not listed.

What does 'Status' mean?

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act, M.G.L. c.131A, and its implementing regulations, 321 CMR 10.00. Rare species are categorized as Endangered, Threatened, or of Special Concern according to the following:

- ***Endangered*** species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.
- ***Threatened*** species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range.
- ***Special Concern*** species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become Threatened in Massachusetts.

In addition, the Natural Heritage & Endangered Species Program maintains an unofficial ***watch list*** of plants that are tracked due to potential conservation interest or concern, but are not regulated under the Massachusetts Endangered Species Act or other laws or regulations. Likewise, described natural communities are not regulated any laws or regulations, but they can help to identify ecologically important areas that are worthy of protection. The status of natural communities reflects the documented number and acreages of each community type in the state:

- ***Critically Imperiled*** communities typically have 5 or fewer documented sites or have very few remaining acres in the state.
- ***Imperiled*** communities typically have 6-20 sites or few remaining acres in the state.
- ***Vulnerable*** communities typically have 21-100 sites or limited acreage across the state.
- ***Secure*** communities typically have over 100 sites or abundant acreage across the state; however excellent examples are identified as Core Habitat to ensure continued protection.

Legal Protection of Biodiversity

BioMap and Living Waters present a powerful vision of what Massachusetts would look like with full protection of the land that supports most of our biodiversity. To create this vision, some populations of state-listed rare species were deemed more likely to survive over the long-term than others.

Regardless of their potential viability, all sites of state-listed species have full legal protection under the Massachusetts Endangered Species Act (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00). Habitat of state-listed wildlife is also protected under the Wetlands Protection Act Regulations (310 CMR 10.37 and 10.59). The ***Massachusetts Natural Heritage Atlas*** shows **Priority Habitats**, which are used for regulation under the Massachusetts Endangered Species Act and Massachusetts Environmental Policy Act (M.G.L. c.30) and **Estimated Habitats**, which are used for regulation of rare wildlife habitat under the Wetlands Protection Act. For more information on rare species regulations, see the *Massachusetts Natural Heritage Atlas*, available from the Natural Heritage & Endangered Species Program in book and CD formats.

BioMap and Living Waters are conservation planning tools and do not, in any way, supplant the Estimated and Priority Habitat Maps which have regulatory significance. Unless and until the combined BioMap and Living Waters vision is fully realized, we must continue to protect all populations of our state-listed species and their habitats through environmental regulation.

Natural Heritage & Endangered Species Program

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Understanding Core Habitat Summaries

Following the BioMap and Living Waters Core Habitat species and community lists, there is a descriptive summary of each Core Habitat that occurs in your city or town. This summary highlights some of the outstanding characteristics of each Core Habitat, and will help you learn more about your city or town's biodiversity. You can find out more information about many of these species and natural communities by looking at specific ***fact sheets*** at www.nhesp.org.

Next Steps

BioMap and Living Waters were created in part to help cities and towns prioritize their land protection efforts. While there are many reasons to conserve land – drinking water protection, recreation, agriculture, aesthetics, and others – BioMap and Living Waters Core Habitats are especially helpful to municipalities seeking to protect the rare species, natural communities, and overall biodiversity within their boundaries. Please use this report and map along with the rare species and community fact sheets to appreciate and understand the biological treasures in your city or town.

Protecting Larger Core Habitats

Core Habitats vary considerably in size. For example, the average BioMap Core Habitat is 800 acres, but Core Habitats can range from less than 10 acres to greater than 100,000 acres. These larger areas reflect the amount of land needed by some animal species for breeding, feeding, nesting, overwintering, and long-term survival. Protecting areas of this size can be very challenging, and requires developing partnerships with neighboring towns.

Prioritizing the protection of certain areas within larger Core Habitats can be accomplished through further consultation with Natural Heritage Program biologists, and through additional field research to identify the most important areas of the Core Habitat.

Additional Information

If you have any questions about this report, or if you need help protecting land for biodiversity in your community, the Natural Heritage & Endangered Species Program staff looks forward to working with you.

Contact the Natural Heritage & Endangered Species Program:

by Phone *508-792-7270, Ext. 200*

by Fax: *508-792-7821*

by Email: *natural.heritage@state.ma.us*.

by Mail: *North Drive*
Westborough, MA 01581

The GIS datalayers of BioMap and Living Waters Core Habitats are available for download from MassGIS: www.mass.gov/mgis

Check out www.nhesp.org for information on:

- Rare species in your town
- Rare species fact sheets
- BioMap and Living Waters projects
- Natural Heritage publications, including:
  - Field guides
  - Natural Heritage Atlas, and more!

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BioMap: Species and Natural Communities

Richmond

Core Habitat BM677

Natural Communities

Common Name	Scientific Name	Status
Black Ash-Red Maple-Tamarack Calcareous Seepage Swamp		Imperiled
Calcareous Sloping Fen		Imperiled
Red Oak - Sugar Maple Transition Forest		Secure
Rich, Mesic Forest Community		Vulnerable

Plants

Common Name	Scientific Name	Status
Adder's-Tongue Fern	*Ophioglossum pusillum*	Threatened
Bristly Buttercup	*Ranunculus pensylvanicus*	Threatened
Bush's Sedge	*Carex bushii*	Endangered
Capillary Beak-Sedge	*Rhynchospora capillacea*	Endangered
Chestnut-Colored Sedge	*Carex castanea*	Endangered
Crooked-Stem Aster	*Symphotrichum prenanthoides*	Threatened
Dioecious Sedge	*Carex sterilis*	Threatened
Fen Sedge	*Carex tetanica*	Special Concern
Foxtail Sedge	*Carex alopecoidea*	Threatened
Gray's Sedge	*Carex grayi*	Threatened
Hairy Wild Rye	*Elymus villosus*	Endangered
Handsome Sedge	*Carex formosa*	Threatened
Hemlock Parsley	*Conioselinum chinense*	Special Concern
Intermediate Spike-Sedge	*Eleocharis intermedia*	Threatened
Mossy-Cup Oak	*Quercus macrocarpa*	Special Concern
Northern Bedstraw	*Galium boreale*	Endangered
Pale Green Orchis	*Platanthera flava var herbiola*	Threatened
Pink Pyrola	*Pyrola asarifolia var purpurea*	Endangered

Sensitive Rare Plant		
Smooth Rock-Cress	*Arabis laevigata*	Threatened
Stiff Gentian	*Gentianella quinquefolia*	Watch Listed
Wapato	*Sagittaria cuneata*	Threatened
White Adder's-Mouth	*Malaxis monophyllos var brachypoda*	Endangered

Invertebrates

Common Name	Scientific Name	Status
Early Hairstreak	*Erora laeta*	Threatened
Eastern Veined White	*Pieris oleracea*	Threatened

Vertebrates

Common Name	Scientific Name	Status
American Bittern	*Botaurus lentiginosus*	Endangered
Common Moorhen	*Gallinula chloropus*	Special Concern
Four-toed Salamander	*Hemidactylium scutatum*	Special Concern
Jefferson Salamander	*Ambystoma jeffersonianum*	Special Concern
Least Bittern	*Ixobrychus exilis*	Endangered
Marbled Salamander	*Ambystoma opacum*	Threatened
Spring Salamander	*Gyrinophilus porphyriticus*	Special Concern
Wood Turtle	*Clemmys insculpta*	Special Concern

Core Habitat BM690

Plants

Common Name	Scientific Name	Status
Creeping Sedge	*Carex chordorrhiza*	Endangered
Foxtail Sedge	*Carex alopecoidea*	Threatened
Slender Cottongrass	*Eriophorum gracile*	Threatened

Vertebrates

Common Name	Scientific Name	Status
American Bittern	*Botaurus lentiginosus*	Endangered
Common Moorhen	*Gallinula chloropus*	Special Concern

Core Habitat BM703

Invertebrates

Common Name	Scientific Name	Status
Dion Skipper	*Euphyes dion*	Threatened

Core Habitat BM713

Plants

Common Name	Scientific Name	Status
Barren Strawberry	*Waldsteinia fragarioides*	Special Concern
Fen Sedge	*Carex tetanica*	Special Concern
Hitchcock's Sedge	*Carex hitchcockiana*	Special Concern
Intermediate Spike-Sedge	*Eleocharis intermedia*	Threatened

Vertebrates

Common Name	Scientific Name	Status
Jefferson Salamander	*Ambystoma jeffersonianum*	Special Concern
Pied-Billed Grebe	*Podilymbus podiceps*	Endangered
Spring Salamander	*Gyrinophilus porphyriticus*	Special Concern
Wood Turtle	*Clemmys insculpta*	Special Concern

Core Habitat BM715

Natural Communities

Common Name	Scientific Name	Status
Black Ash-Red Maple-Tamarack Calcareous Seepage Swamp		Imperiled

Plants

Common Name	Scientific Name	Status
Great Laurel	*Rhododendron maximum*	Threatened
Hemlock Parsley	*Conioselinum chinense*	Special Concern
Sensitive Rare Plant		

Core Habitat BM717

Plants

Common Name	Scientific Name	Status
Small Site for Rare Plant		

Core Habitat BM721

Plants

Common Name	Scientific Name	Status
Small Site for Rare Plant		

Core Habitat BM728

Natural Communities

Common Name	Scientific Name	Status
Black Ash-Red Maple-Tamarack Calcareous Seepage Swamp		Imperiled

Plants

Common Name	Scientific Name	Status
Labrador Bedstraw	*Galium labradoricum*	Threatened
Slender Blue-Eyed Grass	*Sisyrinchium mucronatum*	Endangered

Core Habitat BM730

Plants

Common Name	Scientific Name	Status
Small Site for Rare Plant		

BioMap: Core Habitat Summaries

Richmond

Core Habitat BM677

This Core Habitat includes portions of the Housatonic River, Sackett Brook, Yokun Brook, Pleasant Valley and Lenox Mountain. From riparian habitats and calcareous wetlands to large areas of Northern Hardwoods, the diversity of this Core Habitat supports rare species of salamanders, turtles, marsh birds, and butterflies. The calcareous bedrock here supports many high-quality natural communities that contain a wealth of biodiversity, most notably several important rare plant populations. Large portions of this Core Habitat are protected as conservation land and additional protection priorities include areas along the Housatonic River, the lower and middle reaches of Yokun Brook, and around Mud Pond.

Natural Communities

This Core Habitat contains a good diversity of exemplary natural communities that are associated with the porous calcareous bedrock commonly found in this area of the Berkshires. An excellent Calcareous Sloping Fen occurs near Mud Pond. Calcareous Sloping Fens are open, sedge-dominated wetlands occurring on slight to moderate slopes where there is calcareous groundwater seepage. They are rare species "hot spots" with many associated rare plant and animal species. Two good-quality Black Ash-Red Maple-Tamarack Calcareous Seepage Swamps occur in basins below Mahanna Cobble. Black Ash-Red Maple-Tamarack Calcareous Seepage Swamps are mixed deciduous-coniferous forested swamps occurring in areas where there is calcium-rich groundwater seepage. This nutrient enrichment results in many rare calcium-loving plant species.

Plants

A tremendous diversity of rare plant species that are adapted to calcareous fens, swamps, meadows and forests live within this large Core Habitat. For example, a vigorous population of Fen Sedge and one of the state's two known populations of the Capillary Beaked-Sedge inhabit open calcareous peatlands in this area. The state's most outstanding population of Wapato, a rare relative of the Common Arrowhead, makes its home here in a floodplain community. Wet meadow species such as Stiff Gentian and Pale Green Orchis are also present in this Core Habitat.

Invertebrates

This Core Habitat includes undeveloped and unfragmented areas of Northern Hardwoods Forest in northwestern Lenox and southeastern Pittsfield that are habitat for rare butterflies including the Early Hairstreak and the Eastern Veined White. While both of these butterflies may be found within sunny openings in the forest, the most critical areas are those with their larval host plants - Beech trees for the Early Hairstreak and Toothwort and other mustard family plants for the Eastern Veined White. The part of this Core Habitat in southeastern Pittsfield is located less than 10 km from other habitat for the Eastern Veined White in northeastern Pittsfield and Washington, which probably allows for dispersal of individual butterflies between all of these areas.

Vertebrates

Significant habitat for Wood Turtles is present along the Housatonic River, Sackett Brook, and in Pleasant Valley where mosaics of riparian habitats include miles of meandering river and streams, old river oxbows, wet meadows, shrub and wooded swamps, and adjacent upland forests and fields. Along the Housatonic River and the lower reaches of Sackett Brook, shallow freshwater marshes and wet meadows, including beaver-impounded wetlands and old oxbows, provide habitat for the American Bittern, a rare marsh bird. Riverine marshes that have a good interspersion of cattails, aquatic bed vegetation, and open water provide habitat for American and Least Bitterns, Common Moorhens, and other marsh birds. Also in this Core Habitat, mixed upland forests with clusters of vernal pools support populations of Jefferson and Marbled Salamanders, while forested and shrub wetlands and seeps with abundant sphagnum moss provide significant habitat for Four-toed Salamanders. In portions of the Core Habitat that are at higher elevations, the cold, high-gradient brooks and seeps provide habitat for Spring Salamanders.

Land protection within this Core Habitat should focus on protecting large areas of connected riparian habitat, especially between Yokun Brook and the Housatonic River, and expanding areas of existing conservation land. Wood Turtles will benefit from the protection of undeveloped riparian corridors that extend out at least 600 yards along both sides of the Housatonic River and its tributaries. Another conservation priority should be areas of mature deciduous or mixed forest with clusters of vernal pools that provide breeding habitat for Jefferson or Marbled Salamanders. Mature, rich mesic or floodplain forests at lower elevations are especially important habitat for a variety of songbirds, including Wood Thrush.

Core Habitat BM690

Plants

Massachusetts' only known population of Creeping Sedge and a very healthy population of Threatened Foxtail Sedge both grow in a shrubby fen within this Core Habitat.

Vertebrates

This Core Habitat encompasses a relatively large, cattail-dominated marsh that provides habitat for a diverse assemblage of relatively uncommon wetland birds, including American Bittern, Common Moorhen, Sora, Virginia Rail, Marsh Wren, and Green Heron. This is a beaver-modified wetland along a stream that flows into Richmond Pond in Richmond. Most of the marsh and surrounding uplands are not currently protected as conservation land.

Core Habitat BM703

Invertebrates

This Core Habitat includes an area of Fairfield Brook Fen that is habitat for the Dion Skipper butterfly. Though fragmented by both a railroad track and a pipeline cut, these areas probably have negligible effects on habitat quality for the Dion Skipper. Apparently none of this Core Habitat is protected. The Dion Skipper probably also inhabits both Richmond Fen to the northeast of this Core Habitat and Cone Brook Fen to the southwest.

BioMap: Core Habitat Summaries

Richmond

Core Habitat BM713

This is a diverse Core Habitat for Wood Turtles, Jefferson Salamanders, Spring Salamanders, and Pied-billed Grebes. Wetlands here also support three rare species of sedges. The Core Habitat encompasses several miles of meandering brooks, riparian wetlands, ponds, and uplands in Richmond and West Stockbridge, most of which remains unprotected.

Plants

This Core Habitat supports a diversity of plants, including three rare members of the sedge family that grow within wetlands found here.

Vertebrates

Meandering reaches of Cone Brook and Baldwin Brook, and adjacent wet meadows, upland forests, and fields provide habitat for Wood Turtles. Conservation efforts for Wood Turtles should seek to preserve unbroken, undeveloped corridors extending at least 600 yards out from streams and brooks. Vernal pools in the mature deciduous and mixed forests in this area provide habitat for Jefferson Salamanders. Spring Salamanders may be present in coldwater brooks and headwater seeps. The deep freshwater marsh along the edges of Cranberry Pond provides breeding and migration habitat for Pied-billed Grebes and other wetland birds.

Core Habitat BM715

Natural Communities

This Core Habitat contains a large example of a good-quality Black Ash-Red Maple-Tamarack Calcareous Seepage Swamp that is associated with several state-listed plant species. Black Ash-Red Maple-Tamarack Calcareous Seepage Swamps are mixed deciduous-coniferous forested swamps occurring in areas where there is calcium-rich groundwater seepage. This nutrient enrichment results in many rare calcium-loving plant species. This is an unusual natural community type found primarily in western Massachusetts.

Plants

Among the hummocks of a calcareous seepage swamp in this Core Habitat grow the rare Hemlock Parsley and Great Laurel.

Core Habitat BM728

Natural Communities

This Core Habitat contains a small example of a Black Ash-Red Maple-Tamarack Calcareous Seepage Swamp that is associated with several state-listed plant species. Black Ash-Red Maple-Tamarack Calcareous Seepage Swamps are mixed deciduous-coniferous forested swamps occurring in areas where there is calcium-rich groundwater seepage. This nutrient enrichment results in many rare calcium-loving plant species. This is an unusual natural community type found primarily in western Massachusetts.

Living Waters: Species and Habitats

Richmond

Core Habitat LW047

Exemplary Habitats

Common Name	Scientific Name	Status
Lake/Pond Habitat		----------

Core Habitat LW187

Plants

Common Name	Scientific Name	Status
Hill's Pondweed	*Potamogeton hillii*	Special Concern

Core Habitat LW188

Plants

Common Name	Scientific Name	Status
Hill's Pondweed	*Potamogeton hillii*	Special Concern

Core Habitat LW189

Plants

Common Name	Scientific Name	Status
Hill's Pondweed	*Potamogeton hillii*	Special Concern

Core Habitat LW264

Plants

Common Name	Scientific Name	Status
Hill's Pondweed	*Potamogeton hillii*	Special Concern

Core Habitat LW267

Plants

Common Name	Scientific Name	Status
Hill's Pondweed	*Potamogeton hillii*	Special Concern

Living Waters: Species and Habitats

Richmond

Core Habitat LW272

Plants

Common Name	Scientific Name	Status
Hill's Pondweed	*Potamogeton hillii*	Special Concern

Core Habitat LW296

Plants

Common Name	Scientific Name	Status
Water Marigold	*Megalodonta beckii*	Watch Listed
Water Star-grass	*Heteranthera dubia*	Watch Listed

Fishes

Common Name	Scientific Name	Status
Bridle Shiner	*Notropis bifrenatus*	Special Concern

Core Habitat LW297

Plants

Common Name	Scientific Name	Status
Fries' Pondweed	*Potamogeton friesii*	Endangered
Hill's Pondweed	*Potamogeton hillii*	Special Concern
Water Marigold	*Megalodonta beckii*	Watch Listed
Water Star-grass	*Heteranthera dubia*	Watch Listed

Fishes

Common Name	Scientific Name	Status
Longnose Sucker	*Catostomus catostomus*	Special Concern

Living Waters: Core Habitat Summaries

Richmond

Core Habitat LW047

This pond has high alkalinity waters, which naturally occur in the western regions of Massachusetts underlain by limestone and marble bedrock. These types of ponds support uncommon plant and invertebrate species not found in other parts of the state. This pond has little development in its riparian areas and surrounding watershed.

Core Habitat LW187

Hill's Pondweed, a globally rare plant species, flourishes in this small, hardwater pond. Native freshwater plants like Hill's Pondweed are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates, and adding oxygen to the water through photosynthesis.

Core Habitat LW188

Hill's Pondweed, a globally rare plant species, flourishes in this small, hardwater pond. Native freshwater plants like Hill's Pondweed are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates, and adding oxygen to the water through photosynthesis.

Core Habitat LW189

Hill's Pondweed, a globally rare plant species, flourishes in the shallow hard waters of Crystal Lake. Native freshwater plants like Hill's Pondweed are an important component of aquatic ecosystems. They provide habitat and nutrition for other species, and they add oxygen to the water through photosynthesis.

Core Habitat LW264

Hill's Pondweed, a globally rare plant species, grows in the shallow waters of this small calcareous pond in Richmond. Native freshwater plants like Hill's Pondweed are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates, and adding oxygen to the water through photosynthesis.

Core Habitat LW267

Hill's Pondweed, a globally rare plant species, flourishes in this hardwater farm pond. Native freshwater plants like Hill's Pondweed are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates, and adding oxygen to the water through photosynthesis.

Core Habitat LW272

Hill's Pondweed, a globally rare plant species, flourishes in this small hardwater pond. Native freshwater plants like Hill's Pondweed are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates, and adding oxygen to the water

through photosynthesis.

Core Habitat LW296

Richmond Pond contains a very diverse community of aquatic plants, including two uncommon plant species, Water Marigold and Water Star-Grass. Native freshwater plants like these are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates. For example, the well-vegetated waters of Richmond pond support a population of Bridle Shiner, a fish Species of Special Concern that has a small range from southern New England to South Carolina, and has been declining or extirpated in much of the region. The Bridle Shiner feeds on small aquatic insects and other invertebrates, and is an important part of the freshwater ecosystem as prey for larger fishes. This population of Bridle Shiner in Richmond Pond has persisted since at least 1947.

Core Habitat LW297

The complex of ponds that includes Cranberry Pond, Crane Lake, Shaker Mill Pond, and Mud Ponds, along with their interconnecting streams, supports a very diverse aquatic plant community. This community consists of several rare plant species, including the Endangered Fries' Pondweed. Native freshwater plants are an important component of aquatic ecosystems, providing habitat and nutrition for fishes and invertebrates, and adding oxygen to the water through photosynthesis.

Also within this Core Habitat, the flowing waters of Cone Brook and Lenox Mountain Brook support the Longnose Sucker, a fish Species of Special Concern. This species is restricted to the western watersheds of Massachusetts, where it is found in cold, clean, oxygen-rich streams with gravel bottoms. The Longnose Sucker sometimes migrates many miles to reach its spawning grounds. The eggs are released over the gravel bottom, making them susceptible to excess sedimentation, flow alterations, and increases in water temperature. These habitat degradations can be particularly detrimental to the reproductive success of this slow-growing fish that does not reach maturity until 5 to 7 years of age. Protecting the riparian areas adjacent to this Core Habitat will help maintain the cool, clean freshwater habitat of the Longnose Sucker.

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